

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application Serial No.....10/559,697  
Filing Date.....August 26, 2006  
Confirmation No.....3817  
Inventorship.....Axel Clausen  
Group Art Unit.....2611  
Examiner .....Michael R. Neff  
Attorney Docket No. ....LAN0076US  
Title: METHOD FOR REDUCING THE CREST FACTOR

**PRE-APPEAL BRIEF REQUEST FOR REVIEW**

**IN RESPONSE TO THE FINAL OFFICE ACTION OF MAY 12, 2010**

To: Mail Stop AF  
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From: Tim R. Wyckoff (P: 206.905.9678)  
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Sir:

In accordance with the requirements provided in the Official Gazette Notice of July 12, 2005, the Applicants respectfully submit the following arguments as a Pre-Appeal Brief Request for Review, which is being filed concurrently with a Notice of Appeal, in response to the Final Office Action of May 12, 2010, in connection with the above-identified application.

**Claims 8, 11 – 14, 16 – 19, and 21 – 23** remain pending for examination. **Claims 8 and 16** are independent. Applicants dispute the contention that the pending claims do not place the application in condition for allowance.

**Reason for Request**

The Applicants respectfully submit that the outstanding rejections under 35 U.S.C. §103(a) are in error. These rejections include:

- (a) **Claims 8 and 11 – 14** were rejected as being unpatentable over **Awater, et al.**, (U.S. Patent 6,175,551; hereafter "**Awater**") in view of **Schenk** (U.S. Patent 6,529,925; hereafter "**Schenk**") and **Henkel, et al.**, (U.S. Publication "PAR Reduction Revisited: An Extension of Tellado's Method"; hereafter "**Henkel**").
- (b) **Claims 16 – 19 and 21 – 23** were rejected as being unpatentable over **Awater** in view of **Henkel**.

More particularly, the rejection under 35 U.S.C. §103(a) should be withdrawn because the rejections fail to establish a *prima facie* case of obviousness.

Independent **Claim 8** recites, with emphasis added:

A method..., **at least one carrier being reserved which is not provided for the data transmission**, the method comprising:

...performing crest factor reduction corresponding to the predetermined data frame based at least in part on peak values within the cyclic prefix of the predetermined data frame, by:

- (a) **filtering the data symbol and the cyclic prefix;**
- (b) **determining whether a time-domain function of the data symbol and of the cyclic prefix within the predetermined data frame exhibits at least one peak value that exceeds a first threshold;**
- (c) **determining an amplitude of an exhibited peak value and an associated position within the predetermined data frame;**
- (d) **generating a correction function by scaling and transposing a sample correction function in dependence on the amplitude and associated position of the exhibited peak value;**
- (e) **using the at least one carrier which is not available for data transmission for generating the sample correction function in the time domain; and**
- (f) **modifying the data symbol to be transmitted by superimposing the correction function.**

The portions highlighted in the above listing of **Claim 8** are those features acknowledged in the outstanding rejection as not being disclosed by **Awater**.



While the Applicants do not presently disagree with the assertion made in the rejection that **Schenk** discloses “where at least one carrier being reserved which is not provided for the data transmission ([Schenk] Col. 1, lines 438 – 60),” the Applicants disagree that **Henkel** is able to compensate for, at least, the acknowledged deficiencies of **Awater** regarding the remaining highlighted portions of independent **Claim 8** that are recited *within* the recitation of “performing crest factor reduction...”

More particularly, the rejection points to the description at Page 31-2 through Page 31-3 of **Henkel** as disclosing the portions highlighted above in the partial listing of **Awater**. As stated above, the Applicants respectfully disagree.

At Page 31-2, col. 2, **Henkel** states:

...If the [frequency] bins are chosen at random, after a certain number of trials, one is able to find a set of such bins that shows a sufficient peak compared to the sidelobes in the corresponding time-domain vector.

**Henkel** continues by describing a “Dirac-like time domain signal p” that comprises the frequency bins that are compared to a corresponding time-domain vector in order to find a set that shows a sufficient peak.

Still, the Applicants submit that there is no description on Page 31-1, or elsewhere, of the following features of **Claim 8**:

(b) **determining whether a time-domain function of the data symbol and of the cyclic prefix within the predetermined data frame exhibits at least one peak value that exceeds a first threshold;**

The reference does not specify that *it is a time-domain function of the data symbol and of the cyclic prefix* within the predetermined data frame that exhibits at least one peak value that exceeds a first threshold or even that a determination is made as to whether the time-domain function exhibits at least one peak value exceeding a first threshold value.

Further, at Page 31-2, col. 2, **Henkel** describes, with reference to Figure 4:



The uppermost blocks locate the peak of the oversampled Dirac-like function. The subsequent block with rounded edges realizes a time shift to zero and the neighboring  $L - 1$  positions...The shift to zero is required, since an arbitrary filter response will also place the peak of the Dirac-like function to some arbitrary position.

The Applicants submit, though, nowhere in this description, or elsewhere in **Henkel**, is there a sufficient disclosure to teach, or even suggest, the claimed feature of:

**(c) determining an amplitude of an exhibited peak value and an associated position within the predetermined data frame.**

Even further, though **Henkel** describes, at Page 31-2, col. 1, that the shift in the oversampled signal is realized by the (circular) time shift property of a particular DFT transform, there is still no disclosure that is even suggestive of:

**(d) generating a correction function by scaling and transposing a sample correction function in dependence on the amplitude and associated position of the exhibited peak value.**

Accordingly, in view of, at least, the foregoing deficiencies of **Henkel**, it is respectfully submitted that the proposed combination of **Awater**, **Schenk**, and **Henkel** is altogether incapable of even suggesting the following more comprehensive recitation from **Claim 8**:

**performing crest factor reduction corresponding to the predetermined data frame based at least in part on peak values within the cyclic prefix of the predetermined data frame.**

Therefore, it is respectfully submitted that independent **Claim 8**, as well as corresponding dependent **Claims 11 – 14**, are patentable over the proposed combination of references, and so the current rejection (a) under 35 U.S.C. §103(a) should be reconsidered and withdrawn.

Just as the proposed combination of **Awater**, **Schenk**, and **Henkel** fails to teach or suggested the acts of “(c) determining...” and “(d) generating...,” as recited in **Claim 8**, it is respectfully submitted that the proposed combination of **Awater** and **Henkel** fails to teach or suggest at least the below emphasized recitation, which includes similar acts as those discussed in connection with **claim 8** hereinabove, of **claim 16**.

Independent **Claim 16** recites, with emphasis added:



A method... comprising:

...(b) performing crest factor reduction corresponding to the predetermined data frame **by determining an amplitude of an identified peak value and an associated position within the predetermined data frame**; and

(c) **generating a correction function by scaling and transposing a sample correction function in dependence on the amplitude and associated position of the identified peak value** and using at least one carrier which is not available for data transmission for generating the sample correction function in the time domain.

Therefore, it is respectfully submitted that independent **Claim 16**, as well as corresponding dependent **Claims 17 – 19 and 21 – 23**, are patentable over the proposed combination of references, and so the current rejection (b) under 35 U.S.C. §103(a) should be reconsidered and withdrawn.

### **Conclusion**

Applicants respectfully request that the rejections under §103(a) be withdrawn, and the pending claims be allowed to issue.

Respectfully Submitted,

SpryIP, LLC

Dated: September 11, 2010

By: /Tim R. Wyckoff/

Tim R. Wyckoff  
Reg. No. 46,175



**PRE-APPEAL BRIEF REQUEST FOR REVIEW**

Docket Number (Optional)

LAN0076US

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Signature \_\_\_\_\_

Typed or printed  
name \_\_\_\_\_

Application Number

10/559,697

Filed

08-26-2006

First Named Inventor

Axel Clausen

Art Unit

2611

Examiner

NEFF, MICHAEL R

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

I am the

☐

applicant/inventor.

/Tim R. Wyckoff/

Signature

☐

assignee of record of the entire interest.

See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.  
(Form PTO/SB/96)

Tim R. Wyckoff

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Registration number if acting under 37 CFR 1.34 \_\_\_\_\_

September 11, 2010

Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required.

Submit multiple forms if more than one signature is required, see below.

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